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TI Bilayer coatings with excellent soiling resistance and their manufacture
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PA Asia Industry Co., Ltd., Japan
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AB The coatings consist of (A) a base coating layer containing 1-50% compds. containing silanol groups or groups forming silanol groups by hydrolysis and (B) water-thinned top coating layer of **acrylic-silicones**, i.e., **hybrid emulsions** of 40-60% **acrylic** resins and 40-60% silicones. A substrate is coated with the base coating material, dried, further coated with the top coating material, and dried to form the layers. Thus, a 50% solid resin component (silicon-modified polyisocyanate/**acrylic** polyol) 50, organosilicate hydrolysis product (Organosilicate 40) 5, TiO₂ 17, additives 8, and solvent 20 g were mixed to give a base coating material, which was sprayed on a slate sheet, dried, and then an **acrylic** silicone (interpenetrating network) aqueous **emulsion** was sprayed on the base coating layer and dried to form a bilayer coating showing 60 degree gloss 95 initially, 90 after accelerated weathering 4000 h, and 80 after outdoor exposure 1 yr, color difference (.DELTA.L) -2.4 after outdoor exposure 1 h before washing and -0.45 after washing, and no changes after thermal cycle test.

Silicone